UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,418	05/15/2006	Aalbert Stek	NL 031333	7899

24737 7590 09/25/2007

PHILIPS INTELLECTUAL PROPERTY & STANDARDS
P.O. BOX 3001
BRIARCLIFF MANOR, NY 10510

EXAMINER	
HUYNH, PHUONG	

ART UNIT	PAPER NUMBER
2857	

MAIL DATE	DELIVERY MODE
09/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,418	STEK ET AL.	
	Examiner	Art Unit	
	Phuong Huynh	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 July 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4 and 5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2 and 5* is/are rejected.

7)☒ Claim(s) *4* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 July 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings were received on July 17, 2007. These drawings are accepted.

Specification

2. The amendment to Specification was received on July 17, 2007. The Specification is accepted.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Fujii et al. (hereinafter "Fujii") (US Patent No. 5,808,462).

Regarding claims 1, 2, and 5, Applicant's admitted prior art discloses a position determining system for determining a position of a rotor of a motor, said system comprising:

Sensing means coupled to the rotor for generating in response to a rotation of the rotor a quadrature signal comprising a sine component and a cosine component,

Calculating means for calculating:

(i) a sum of a squared value of the sine component and a squared value of a cosine component,

(ii) an amplitude correction factor as the squared root of the sum [see Applicant's Specification: page 1; page 3, lines 4-7].

The admitted prior art does not disclose "an amplitude corrected sine component as the sine component divided by the amplitude correction factor and an amplitude corrected cosine component as the cosine component divided by the amplitude correction factor" and "an output sum of an inverse sine value of the amplitude corrected sine component and an inverse cosine of the amplitude corrected cosine component and output means for outputting the output sum for determining a position of the rotor."

Fujii teaches an amplitude corrected sine component as the sine component divided by the amplitude correction factor and an amplitude corrected cosine component as the cosine component divided by the amplitude correction factor [see Fujii: col. 6, lines 1-19; and col. 6, line 65-col. 7, line 31; and col. 8, line 55-col. 9, line 9]; and Fujii teaches an output sum of an inverse sine value of the amplitude corrected sine component and an inverse cosine of the amplitude corrected cosine component and output means for outputting the output sum for determining a position of the rotor." [see Fujii: col. 6, lines 1-19; and col. 6, line 65-col. 7, line 41; and col. 8, line 55-col. 9, line 9].

It would have been obvious to one of ordinary skill in the art at the time of Applicant's invention to modify the invention of the admitted prior art to include the calculation, as taught by Fujii, to provide enhanced control or protection performance based on detected amplitude and phase in an

electrical device [see Fujii: col. 7, lines 1-31] and to include the output sum, as taught by Fujii, to provide enhanced control or protection performance based on detected amplitude and phase in an electrical device [see Fujii: col. 7, lines 1-41].

Allowable Subject Matter

4. Claim 4 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

5. Applicant's arguments, filed July 17, 2007, with respect to the rejections of claims 1-5 under 35 U.S.C. 101 have been fully considered and are persuasive. The Rejections of claims 1-5 under 35 U.S.C. 101 has been withdrawn.

6. Applicant's arguments filed July 17, 2007 with respect to claims 1, 2, and 5 under 35 U.S.C. 103 (a) have been fully considered but they are not persuasive.

Regarding amended claims 1, 2, 5 and original claim 3, Applicant argues that Fujii merely discloses calculating the inverse cosine and are completely silent and do not teach or suggest anything about an inverse sine. In other words, Applicant argues that Fujii does not disclose "calculating.. an output sum of an inverse sine value of the amplitude corrected sine component (sin(x)) and an inverse cosine value of the amplitude corrected cosine component (cos(x))".

Accordingly, in col. 6, lines 1-19; and col. 6, line 65-col. 7, line 41; and col. 8, line 55-col. 9, line 9, Fujii discloses that "Indicated by 18 is an amplitude/phase detection means which implements the polar coordinate transformation for the split signals a and b thereby to detect the amplitude V and phase .theta. of the voltage signal v, 19 is a multiplier which squares the voltage signal a, 20 is a multiplier which squares the voltage signal b, 21 is an adder which sums the outputs of the multipliers 19 and 20, 22 is a square root calculation circuit which calculates the square root of the output of the adder 21, 23 is a divider which divides the voltage signal a by the output of the square root calculation circuit 22, 24 is an inverse-cosine calculation circuit which calculates the inverse cosine (in the range of 0.degree.-180.degree.) of the output of the divider 23, 25 is a polarity calculation circuit which produces "1" in response to a positive voltage signal b or "-1" for a negative voltage signal b, and 26 is a multiplier which multiplies the output of the polarity calculation circuit 25 to the output of the inverse-cosine calculation circuit 24 thereby to evaluate the phase .phi. of the voltage signal v within the range of -18.degree. to 180.degree" and "uses an inverse-sine calculation circuit or inverse-tangent calculation circuit to calculate the phase .theta."

Therefore, Fujii still discloses "calculating.. an output sum of an inverse sine value of the amplitude corrected sine component (sin(x)) and an inverse cosine value of the amplitude corrected cosine component (cos(x))" or "an output sum of an inverse sine value of the amplitude corrected sine component (sin(x)) and an inverse cosine value of the amplitude corrected sine component (cos(x))."

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong Huynh whose telephone number is 571-272-2718. The examiner can normally be reached on M-F: 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eliseo Ramos-Feliciano can be reached on 571-272-7925. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Phuong Huynh
Examiner
Art Unit 2857

PH
August 12, 2007

CAROL S.W. TSAI
PRIMARY EXAMINER